

REMARKS

The applicant has carefully reviewed and considered the Office Action of 7 September 2006 and wishes to express its appreciation respecting the substantive allowance of claims 9 - 20. In response to this Office Action the applicant now amends claim 1 so as to more clearly patentably distinguish that claim from the prior art. Additionally, claims 3, 4, 6 and 7 are amended so as to properly and clearly depend from amended claim 1. In addition, independent claims 23 and 24 are amended to more clearly and concisely define a patentable invention. Finally, claims 21 and 22 are cancelled without prejudice. The substantive issues will be addressed in the following remarks.

**The Provisional Obviousness-Type Double Patenting Rejections of Claims 1, 2 and 24 Based Upon Co-Pending Application Serial No. 10/686,919 and Claims 1 and 24 Based Upon Co-Pending Application Serial No. 10/929,642 Should be Withdrawn**

As currently amended, claim 1 explicitly provides that the air deflector of the vacuum cleaner has a substantially hemihorn torus shape. Claim 2 depends from claim 1 and, therefore, also incorporates this limitation. Additionally, independent claim 24 has been amended to reference a means for discharging air into said dirt cup in a substantially hemihorn torus pattern. Co-pending U.S. Pending Application Serial Nos. 10/686,919 and 10/929,642 fail to teach, suggest or in any way relate to an air deflector having a substantially hemihorn torus shape or a means for discharging air into a dirt cup in a substantially hemihorn torus pattern. Accordingly, it is believed the current amendment of claims 1 and 24 has removed any basis for the obviousness-type double patenting rejections and that they should now be withdrawn.

**Claims 1-3, 21 and 24 are Clearly Not Anticipated Under 35 USC §102(b) by U.S. Patent 6,243,912 to Grey**

As amended claim 1 reads upon a vacuum cleaner comprising a housing, a nozzle inlet, a suction generator carried on the housing and a dirt cup carried on the housing.

Claim 1 further provides that the dirt cup includes a bottom wall, a side wall, a dirt collection chamber, an air inlet, an air outlet and an air deflector having a substantially hemihorn torus shape. The Grey patent utterly and completely fails to disclose any form of air deflector having a substantially hemihorn torus shape and, accordingly, the Grey patent in no way anticipates claim 1 or claims 2 or 3 dependent thereon.

Similarly, claim 24 now reads upon a dirt collection assembly comprising a dirt cup including a side wall, a bottom wall, an air inlet, means for discharging air into the dirt cup in a substantially hemihorn torus pattern and an air outlet. The Grey patent fails to in any way teach or suggest a means for discharging air into a dirt cup in a substantially hemihorn torus pattern as set forth in amended claim 24 and, accordingly, claim 24 should also be allowed.

**Claims 4-8 and 23 are Patentable and the Rejection to These Claims  
Under 35 USC §103(a) Based Upon the Grey Patent in  
Combination with U.S. Patent No. 1,333,436 to Grassler Should be Withdrawn**

Claims 4-8 depend from claim 1. Amended claim 1 reads on a vacuum cleaner including an air deflector having a substantially hemihorn torus shape. As noted by the Examiner the primary reference to Grey does not even disclose an air deflector that is “arcuately shaped” much less substantially hemihorn torus shaped. Recognizing this shortcoming the Examiner cites the secondary reference to Grassler noting that it discloses a substantially hemihorn torus shaped deflector H.

Significantly, the Grassler patent relates to a spark arrester for a smoke stack such as found on a locomotive. It is very clear that the Grassler patent is from a non-analogous art field. Clearly, no one schooled in the art of vacuum cleaner design would find it obvious to refer to the field of smoke stack spark arresters when designing an air deflector for the dirt cup of a vacuum cleaner. Certainly, there is no teaching in this reference to in any way suggest to one skilled in the art that the provision of an air deflector of substantially hemihorn torus shape in a dirt cup of a vacuum cleaner would in any way

produce an air flow that would benefit cleaning efficiency. Consequently, there is absolutely no motivation whatsoever in these references to lead one skilled in the art to combine the references in the manner suggested by the Examiner. In fact, the only motivation of record is the knowledge and teachings of the present invention and it is improper to use those in hindsight in order to formulate a rejection.

Independent claim 23 reads on a method of directing an air stream in a dirt cup comprising discharging the air stream into the dirt cup in a substantially hemihorn torus shape and exhausting the air stream from the dirt cup. Whether considered alone or in combination the Grey and Grassler patents fail to teach or suggest the discharging of an air stream in a dirt cup in a substantially hemihorn torus shape. At best, the Grassler patent teaches discharging an air stream into the environment by way of a substantially hemihorn torus shaped deflector. The concept of discharging an air stream into a dirt cup is simply not taught or suggested in the combined references.

Applicant respectfully requests the Examiner to reconsider the rejection of claims 4-8 and 23 based upon these comments. After reconsideration it is believed that the Examiner will agree that claims 4-8 and 23 patentably distinguish over this art and should be allowed.

In summary all the pending claims patentably distinguish over the prior art and should be formally allowed. Upon careful review and consideration it is believed the Examiner will agree with this proposition. Accordingly, the early issuance of a formal Notice of Allowance is earnestly solicited.

Respectfully submitted,

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